

## **ENGINEERING DEPARTMENT 2002 ANNUAL REPORT**

The Engineering Department provides the various Town boards, committees and departments with civil engineering and land surveying expertise. The Department also designs public works type projects and obtains the necessary permits and approvals for them, as well as providing supervision of the construction process. Development proposals submitted to the Planning Board are evaluated for compliance with their rules and regulations and good engineering practice. Subdivision road construction is inspected for compliance with these plans. We also update the Town Atlas Maps and associated files for the Assessors.

The Engineering Department staff currently consists of David F. Abbt, P.L.S., Engineering Administrator (38 years); Corey S. York, Engineering Assistant III (8 years), and Karen Switzer-Neff, part-time Secretary (7 years). Eric K. Durling, P.E. is retained on an "as-needed" basis to provide professional engineering review of minor departmental projects.

The survey and design of new sidewalks on Town roads is a continuing project for the Department. We completed the plan of the new sidewalk on Concord Road from Nagog Hill Road to the Town Common. Construction of sidewalks on Concord Road began several years ago and this will be the last section to be built. The Public Shade Tree Removal and Scenic Road Hearing have both been concluded successfully. Construction is scheduled for the summer of 2003. We also did the survey and design for an extension of the sidewalk on Minot Avenue as far as the Conant School. During the year we typically receive several calls from residents requesting sidewalks on busy streets in their neighborhoods. On the older streets in Town sidewalks are not easy to build. Stonewalls, steep shoulder grades, public shade trees, narrow culverts, wetlands and the lack of sufficient street right-of-way width are common obstacles to building sidewalks on colonial era roads. It also becomes more difficult when other residents object to the sidewalk, particularly if their cooperation is needed for additional right-of-way or easements. In spite of all the difficulties, the Town does succeed in constructing some new sidewalks each year, largely due to the general support of the majority of the abutters. It is our policy to work with individual abutters to resolve any design or landscaping issues to their reasonable satisfaction. One way for residents to facilitate the construction of sidewalks in their neighborhood is to jointly find agreement on where (often which side of the street) a sidewalk can be located. This agreement should include all the residents who live along a sidewalk route, particularly those that will directly abut the new sidewalk. In this way, solutions to the common obstacles described above can usually be found and as funds become available the sidewalk can be scheduled for survey, design and construction. The Engineering Department has a standard petition form and information sheet that is available to interested citizens. We also maintain a five-year sidewalk capital plan and map of existing and proposed sidewalks in Town that is also available to interested citizens. A Sidewalk Safety Priority List has also been prepared with the help of the Highway and Police Departments.

Each year the Engineering Department also does the survey, design, and construction stakeout for several projects constructed by the Highway Department. This year we continued our efforts to install a new pre-cast concrete box culvert on School Street near Lawsbrook Road. The installation of this culvert has been delayed pending resolution of an appeal by the downstream abutter to a Wetland Superceding Order of Conditions issued by the Massachusetts Department of Environmental Protection. The original dispute was decided in favor of the Town, but has now been appealed to Superior Court by the abutter. We anticipate a final decision in this matter shortly, and that the work will be able to be scheduled for next year. We completed the plan and Wetland filing to replace a culvert on Pope Road at the Camp Acton conservation land. We also field staked a solution to a drainage problem at 416 Main Street that required grinding and re-profiling the road to provide a consistent downgrade. We field engineered improvements to the existing drainage system on Church Street. We also prepared an up-to-date plan of the Highway Department building on 14

Forest Road reflecting all the changes and modifications to the floor plan since it was built some 30 years ago.

Miscellaneous projects were undertaken for several other departments during the year. We prepared a draft contract for a feasibility study of a future bike path along the old railroad right-of-way from East Acton to North Acton for the Natural Resources Department. Fay, Spofford & Thorndike, is doing this study. We assisted the Natural Resources Department with the process of obtaining title to the site of the future T.J. O'Grady Memorial Skateboard Park. The Commonwealth of Massachusetts currently owns the site on Hayward Road. The State has agreed to convey slightly more than one acre to the Town for this purpose. We designed a handicap access ramp at the polling place in North Acton for the Town Clerk. We surveyed and calculated the volume of a loam pile the Town received from the developer of the Brookside Mall. We also prepared a Lease Plan of the Towne Building (the former Towne School) for the Town Manager.

Traffic problems and complaints seem to increase each year and now occupy a significant portion of our time. Several sign requests in various parts of Town were reviewed for compliance with the Manual on Uniform Traffic Control Devices and dealt with appropriately. We have also done several automatic traffic counts using our four counters/classifiers. These electronic devices can record vehicle volumes by direction, measure speed, and can sort vehicles into 14 separate categories by type ("truck counts"). We have also worked on the project to convert the four town owned traffic signals to L.E.D. displays. L.E.D.'s replace ordinary light bulbs in traffic signals, use less energy, and last much longer.

Generally, there are several things to keep in mind when considering solutions to traffic problems. The first is that the General Laws of Massachusetts, Chapter 90, Sections 17 and 18 determine the manner in which speed limits are set on State and Municipal roadways (see <http://www.motorists.com/ma/ma2.html>). Section 17 specifies the "prima facie" speed limits on various classifications of roadways; Section 18 authorizes the posting of numerical speed limits (special speed zones). The posting of numerical speed limits requires the approval of the Registry of Motor Vehicles and the Massachusetts Highway Department, as well as the local Board of Selectmen. The Massachusetts Highway Department has issued a booklet outlining the procedure required to obtain approval of a numerical speed limit. A copy of this booklet is available for public inspection in the Engineering Department. In general all traffic regulatory signs must be installed in accordance with the "Manual on Uniform Traffic Control Devices" issued by the Federal Highway Administration (<http://mutcd.fhwa.dot.gov/>). This is done to insure that traffic signs look the same and work the same throughout the country. The Town also has a set of Traffic Rules and Orders, which must be formally amended when such things as no parking zones or stop signs, etc. are erected on Town Ways.

New subdivisions are reviewed and inspected by the Engineering Department from initial submission of plans to final completion of the roads. When a plan is submitted, an engineering review of all aspects of a proposed subdivision is made, based on current Planning Board Rules and Regulations. Monroe Lane, Esker Way, Sibel Lane, Squirrel Hill Road Extension, Skyline Drive, and the North Acton Woods and Robbins Mill subdivisions were some of the major projects reviewed and/or inspected in this manner. The Engineering Department also did a substantial amount of work for the Planning Board, including bond estimates for completion of subdivision roads and reviews of common drive special permits.

We continue to manage the 121 non-resident parking meters at the South Acton Commuter Parking Lot. The meters accept disposable debit cards (Parkcards) eliminating the need to carry a lot of change. Parkcards are available at the Treasurer/Tax Collectors counter at the Town Hall. The minimum charge for 12-hours of parking during 2002 was \$1.00 using nickels, dimes and quarters. For 2003, the Board of Selectmen voted a rate increase to \$2.00 for 12 hours. All 121 meters were

reprogrammed on December 31, 2002 with the new rate. The meters do not accept foreign coins, including Canadian coins and New Hampshire turnpike tokens or pennies. We have also worked on the survey and design for additional bike lockers and racks at the commuter lot. We anticipate that these additional facilities for bikers will be installed by the Highway Department next year.

The Engineering Department handles the daily routine of administering the "Permit to Construct Within a Public Way" program ("street cut permits" related to the installation of new utilities and driveways); responding to requests concerning drainage problems; coordinating the process for plowing private ways; maintaining the Town's four traffic signals; reviewing commercial site plans; preparing street acceptance documents; coordinating the process used to accept donations of easements and low value parcels of land; updating the Town Atlas Maps (in both conventional and CAD formats); monitoring groundwater at the former Forest Road Landfill; providing the general public with information; and assisting the various Town boards and committees as requested. We also have several versions of the Town Street and Parcel Maps available for sale to the public.

Next year the Town will be required to comply with new EPA Storm Water Regulations, otherwise known as the NPDES (National Pollution Discharge Elimination System) Storm Water Phase II Program. The first step, which is due by March of 2003, will be for the Town to submit a Storm Water Management Plan in compliance with a General Permit for the 190 or so towns in Massachusetts subject to these regulations. These are towns with Urbanized Areas as delineated by the U.S. Census Bureau according to the most recent Decennial Census data. Only the urbanized portions of Acton are subject to these regulations, however this is between two-thirds and three-quarters of the entire town. EPA issued the General Permit in December of 2002. The Storm Water Management Plan the Town prepares must address the following six minimum control measures:

1. Public Education and Outreach
  - Distribute educational material
  - Sponsor speaking engagements
  - Organize school programs
2. Public Involvement / Participation
  - Hold public meetings
  - Recruit citizen volunteers
3. Illicit Discharge Detection and Elimination
  - Develop complete storm drainage system mapping
  - Detect and eliminate non-storm water discharges
4. Construction Site Runoff Control
  - Require erosion and sedimentation controls
  - Conduct site plan review and site inspections
5. Post-Construction Storm Water Management
  - Establish authority through local ordinance
  - Enforce approved operation and maintenance plans
6. Pollution Prevention / Good Housekeeping for Municipal Operations
  - Develop operation and maintenance program for municipal facilities including roads
  - Implement structural and/or non-structural strategies for storm water treatment
  - Provide training for municipal personnel

The EPA will require that the Town set measurable goals in the management plan and be able to show progress towards achieving them. This will require careful record keeping and annual reporting to EPA. The plan will need to be updated every five years and we anticipate that over time ever tougher requirements will make compliance more difficult and costly. Some of what the Town currently does in the way of storm water management will contribute to plan compliance and other

activities will only need minor modification to comply, however, some actions the plan will require will be new or much enhanced activities. Currently town officials and staff with the assistance of outside expertise are undertaking the complex task of assembling a Storm Water Management Plan for the Town.

I appreciate the cooperation received from the other Town departments and look forward to further productive efforts in the coming year.

David F. Abbt, P.L.S.  
Engineering Administrator